

**CLAIMS**

- [c1] 1. A system for receiving variable rate packets of data symbols comprising:  
a traffic demodulator having an input and having an output;  
an overflow demodulator having an input and having an output; and  
a combiner having a first input coupled to said traffic demodulator output and having a second input coupled to said overflow demodulator output and having an output for producing estimates of ones of said variable rate packets received by said system which include in excess of a predefined number of data symbols.
- [c2] 2. In a system in which users communicate information over traffic channels, an apparatus for transmitting variable rate packets of data symbols over at least one of said traffic channels, said apparatus comprising:  
channel packetizer means for receiving said variable rate packets and for dividing each of said variable rate packets which include more than a threshold number of said data symbols into a traffic packet and at least one overflow packet;  
transmission means for transmitting ones of said variable rate packets which include less than said threshold number of data symbols over a first of said traffic channels, and for transmitting each said traffic packet on said first of said traffic channels and each said at least one overflow packet on at least one overflow channel, said transmission means including modulator means for modulating each said traffic packet using a first modulation sequence associated with said first traffic channel; and  
wherein said first modulation sequence is orthogonal to other modulation sequences associated with other of said traffic channels.
- [c3] 3. The apparatus of Claim 2 wherein said transmission means includes modulator means for modulating each said traffic packet using a traffic pseudorandom noise sequence and for modulating each said at least one overflow packet using an overflow pseudorandom noise sequence.
- [c4] 4. In a system in which users communicate information over traffic channels, an apparatus for transmitting variable rate packets of data symbols over at least one of said traffic channels, said apparatus comprising:

a channel packetizer configured to receive said variable rate packets and to divide each of said variable rate packets which include more than a threshold number of said data symbols into a traffic packet and at least one overflow packet;

a transmitter configured to ones of said variable rate packets which include less than said threshold number of data symbols over a first of said traffic channels, and for transmitting each said traffic packet on said first of said traffic channels and each said at least one overflow packet on at least one overflow channel, said transmitter further comprising a modulator configured to modulate each said traffic packet using a first modulation sequence associated with said first traffic channel; and

wherein said first modulation sequence is orthogonal to other modulation sequences associated with other of said traffic channels.

[c5] 5. The apparatus of Claim 4 wherein said modulator is configured to modulate each said traffic packet using a traffic pseudorandom noise sequence and to modulate each said at least one overflow packet using an overflow pseudorandom noise sequence.